

§ 29.1322

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(f) Instrument panel vibration may not damage, or impair the readability or accuracy of, any instrument.

(g) If a visual indicator is provided to indicate malfunction of an instrument, it must be effective under all probable cockpit lighting conditions.

(Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c), Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–14, 42 FR 36972, July 18, 1977; Amdt. 29–21, 48 FR 4391, Jan. 31, 1983]

§ 29.1322 Warning, caution, and advisory lights.

If warning, caution or advisory lights are installed in the cockpit they must, unless otherwise approved by the Administrator, be—

(a) Red, for warning lights (lights indicating a hazard which may require immediate corrective action);

(b) Amber, for caution lights (lights indicating the possible need for future corrective action);

(c) Green, for safe operation lights; and

(d) Any other color, including white, for lights not described in paragraphs (a) through (c) of this section, provided the color differs sufficiently from the colors prescribed in paragraphs (a) through (c) of this section to avoid possible confusion.

[Amdt. 29–12, 41 FR 55474, Dec. 20, 1976]

§ 29.1323 Airspeed indicating system.

For each airspeed indicating system, the following apply:

(a) Each airspeed indicating instrument must be calibrated to indicate true airspeed (at sea level with a standard atmosphere) with a minimum practicable instrument calibration error when the corresponding pitot and static pressures are applied.

(b) Each system must be calibrated to determine system error excluding airspeed instrument error. This calibration must be determined—

(1) In level flight at speeds of 20 knots and greater, and over an appropriate range of speeds for flight conditions of climb and autorotation; and

(2) During takeoff, with repeatable and readable indications that ensure—

(i) Consistent realization of the field lengths specified in the Rotorcraft Flight Manual; and

(ii) Avoidance of the critical areas of the height-velocity envelope as established under § 29.87.

(c) For Category A rotorcraft—

(1) The indication must allow consistent definition of the takeoff decision point; and

(2) The system error, excluding the airspeed instrument calibration error, may not exceed—

(i) Three percent or 5 knots, whichever is greater, in level flight at speeds above 80 percent of takeoff safety speed; and

(ii) Ten knots in climb at speeds from 10 knots below takeoff safety speed to 10 knots above V_Y .

(d) For Category B rotorcraft, the system error, excluding the airspeed instrument calibration error, may not exceed 3 percent or 5 knots, whichever is greater, in level flight at speeds above 80 percent of the climbout speed attained at 50 feet when complying with § 29.63.

(e) Each system must be arranged, so far as practicable, to prevent malfunction or serious error due to the entry of moisture, dirt, or other substances.

(f) Each system must have a heated pitot tube or an equivalent means of preventing malfunction due to icing.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964 as amended by Amdt. 29–3, 33 FR 970, Jan. 26, 1968; Amdt. 29–24, 49 FR 44439, Nov. 6, 1984; Amdt. 29–39, 61 FR 21901, May 10, 1996; Amdt. 29–44, 64 FR 45338, Aug. 19, 1999]

§ 29.1325 Static pressure and pressure altimeter systems.

(a) Each instrument with static air case connections must be vented to the outside atmosphere through an appropriate piping system.

(b) Each vent must be located where its orifices are least affected by airflow variation, moisture, or foreign matter.

(c) Each static pressure port must be designed and located in such manner that the correlation between air pressure in the static pressure system and true ambient atmospheric static pressure is not altered when the rotorcraft encounters icing conditions. An anti-icing means or an alternate source of static pressure may be used in showing